

APR 23 2007

Application No.: 10/538,057

Docket No.: 4590-419

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

1. (Currently Amended): A method of calibrating the phase of a microwave source, ~~in which~~ said method comprising:

- a) a first step during which ~~closing~~ a calibration circuit is closed, the calibration circuit comprising an injection channel connected to a measurement channel via microwave through the source to be calibrated ~~[[;]]~~ said first step including:

- injecting test signal through the source to be calibrated, the test signal being injected on the injection channel,

- measuring the phase  $\phi_m$  of the signal having passed through the source to be calibrated, the phase of the signal being measured on the measurement channel,

- measuring the amplitude  $A_m$  of the signal having passed through the source to be calibrated, the amplitude of the signal being measured on the measurement channel;

- b) a second step during which ~~opening~~ the calibration circuit is opened at the source to be calibrated (which is used to perform a relative measurement  $U_f$  of the microwave interference signal coming from the imperfect electromagnetic isolation of the calibration circuit and not coming from outside), said second step including: [[;]]

- injecting the test signal on the injection channel;

- measuring the phase  $\phi_f$  and the amplitude  $A_f$  of the signal present on the measurement channel; and

- c) a third step during which ~~determining~~ a corrected phase value  $\phi_c$  is determined, this corrected phase being the phase of a complex number  $U_c$ , calculated from two complex numbers  $U_m$  and  $U_f$ , where:

$$U_m = A_m \cdot \exp(i \cdot \phi_m)$$

$$U_f = A_f \cdot \exp(i \cdot \phi_f)$$

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2. (Previously Presented): The method as claimed in claim 1, in which the complex number  $U_c$  is given by the following equation:

$$U_c = U_m - \alpha \cdot U_f$$

where  $\alpha$  is a complex coefficient correcting for the fluctuations over time in  $\varphi_f$  and  $A_f$  between the measurements of  $\varphi_m$  and  $A_m$ , on the one hand, and of  $\varphi_f$  and  $A_f$ , on the other, this coefficient being equal to 1 in the absence of the correction.

3. (Previously Presented): The method as claimed in claim 1, in which a value of the corrected amplitude  $A_c$  is determined, this corrected amplitude being the amplitude of the complex number  $U_c$ .

4. (Previously Presented): The method as claimed in claim 2, in which the complex coefficient  $\alpha$  is given by the following equation:

$$\alpha = \frac{U_r(t_1)}{U_r(t_0)}$$

where  $U_r$  represents a measurement of the phase and of the amplitude of a reference signal, the measurement  $U_r(t_1)$  being concomitant with the measurement of  $U_m$ , and the measurement  $U_r(t_0)$  being concomitant with the measurement of  $U_f$ .

5. (Previously Presented): The method as claimed in claim 2, in which a value of the corrected amplitude  $A_c$  is determined, this corrected amplitude being the amplitude of the complex number  $U_c$ .

6. (New): The method as claimed in claim 5, in which the complex coefficient  $\alpha$  is given by the following equation:

$$\alpha = \frac{U_r(t_1)}{U_r(t_0)}$$

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where  $U_r$  represents a measurement of the phase and of the amplitude of a reference signal, the measurement  $U_r(t_1)$  being concomitant with the measurement of  $U_m$ , and the measurement  $U_r(t_0)$  being concomitant with the measurement of  $U_f$ .

7. (New): The method as claimed in claim 4, in which a value of the corrected amplitude  $A_c$  is determined, this corrected amplitude being the amplitude of the complex number  $U_c$ .

8. (New): The method as claimed in claim 1, wherein the calibration circuit is used to increase the phase and amplitude of the signal  $U_m$  through the source to be calibrated.